fers from the recent writers on cerebral disease in laying greater stress upon *venous*—not sinus—thrombosis as a cause of sudden disease of the brain in children, and supports his theory by cases from his own observation. In his diagnosis of the lesions he divides them into sudden, coming on in a few minutes or a few hours ; acute, coming on in a few days or a few weeks ; and chronic, coming on in a month or more. Under the first head, he puts the vascular changes ; under the second, inflammations ; and under the third, chronic inflammations, new growths, and degenerative diseases like bulbar paralysis, multiple sclerosis, and general paralysis of the insane. His statements, as a rule, are clear and judicious, but one or two of them are misleading. "Coarse jerking" is hardly an appropriate term for the typical rhythmical tremor of multiple sclerosis ; nor is it true that "headache is absent in the purely degenerative diseases." In general paralysis, at least in the type of the disease most frequently seen at the present day, a moderate headache is a very frequent symptom, and the first symptom in some cases, as in a man at present under our observation, may be a most intense and persistent headache lasting for weeks. In some cases of hysterical hemiplegia, too, the physician might be misled by the statement that "the skin-reflexes are not lessened on the affected side ; the knee-jerks are equal." Charcot, Weir Mitchell, and others, have noted a variation in the knee-jerk on the two sides in many cases of hysterical hemiplegia, and we have ourselves noted its variation in two cases, combind with hemianæsthesia, in one of which the plantar, gluteal, and scapular reflexes, too, were absent on the affected side.

In spite of the few errors mentioned, which we hope to see corrected in a new edition, the book remains a clear and admirable manual in diagnosis, a fitting companion to the author's previous work on the cord, and by far the best work on diseases of the brain that we know in English.

P. C. KNAPP.

Zehn Vorlesungen über den Bau der Nervösen Centralorgane. Von Dr. LUDWIG EDINGER. Mit 120 Abbildungen, S. 138. Leipzig : F. C. W. Vogel, 1885. 6 marks. Ten Lectures on the Structure of the Central Nervous System.

Dr. Edinger is well known to those who are familiar with the German neurological school, as an investigator who has made valuable contributions to the subject of the microscopic anatomy of the brain. Under the direction of Flechsig he has given much time to the study of the development of the brain, and we owe to him the knowledge of the order of formation of the fibres in the corpus striatum.

Being thoroughly familiar with the subject of brain anatomy in its latest developments along the lines of embryology, comparative anatomy, and pathology, he was well qualified to present a summary of recent investigations to the profession in Frankfort-on-the-Main. These lectures were delivered last winter before a company of physicians and surgeons who desired to obtain some knowledge of the rapid advances made of late in the anatomy of the central nervous system.

To a German practitioner, to whom the literature of this subject is easily accessible but is overwhelming in its amount, these lectures afford a concise summary of the subject, and being written in a clear, intelligible style, with a marked avoidance of technical points and disputed questions, they form an attractive little volume for perusal. And yet they are by no means superficial, there being hardly a single fact of any importance which does not obtain its proper amount of attention.

The first lecture is devoted to a short account of the history of investigation in the domain of brain anatomy, and a clear statement of the numerous methods of research which are open to the histologist. The debt which we owe to Meynert for many of the recent discoveries, and for an intelligent classification of the systems of fibres in the brain, is fully acknowledged ; and the German names which are coupled with his afford ample evidence regarding the locality in which much of the best work has been done. But the French and English schools receive their due award of honors, although it is evident that in this department they can hardly compete with Teutonic rivals. The methods of investigation proposed by Stilling, Meynert, Flechsig, Gudden, and the comparative anatomists, are clearly stated. Then there follow lectures on the development of the brain, the convolutions, the association- and the projection-system of fibres, the basal ganglia, the brain axis, and the spinal cord. These are illustrated by numerous diagrams and drawings of sections, many of which are original and very satisfactory. A large number of these show sections through fœtal brains in various stages of development, which have been stained by Weigert's method, and show very clearly the course of certain bundles of fibres. Figs. 39, 42, and 47 show the course of white fibres through the corp. striata as first demonstrated by the author, and aid very much in the comprehension of that vortex of fibres which is included in the subthalamic region. The method of Flechsig is the only one which throws light upon such a complex structure, and these drawings will demonstrate to any one who is not familiar with the appearance of sections made from fœtal brains, how important that method is. The discussion of the numerous fibres and ganglia of the crura cerebri is satisfactory, as are also the descriptions of the cerebellum and of the cranial nerve nuclei on the floor of the fourth ventricle. The views of the author regarding the connection of the posterior columns of the cord with the medulla (see JOURNAL OF MENTAL AND NERVOUS DISEASE, Periscope of Anatomy, April, 1885), already reviewed in this journal, are clearly stated, and are supported by drawings of sections which demonstrate their accuracy. There are some points regarding the anatomy of the medulla which are open to criticism. It is highly improbable that the centripetal fibres passing from the cerebal cortex to the cranial nerves pass down in the formatio reticularis of the pons and medulla. It is true that Meynert gave to a part of this the name "motor area," but he no longer defends the position stated by Edinger. It is much more probable that these fibres descend in company with the pyramidal tracts, turn dorsad in the raphé, and decussate as they pass dorsad to the cranial nerve nuclei. They thus pass between the formatio reticularis of the two sides, but nowhere lie in it. In fact none of the drawings of the author can be cited in support of diagram fig. 105, and it is contrary to the course which pathological observations indicate. The description of the acoustic nucleus is subject to corrections, and is less complete than that of the other nerves. The statements regarding the course of sensory impulses in the medulla and pons do not correspond to the facts as determined by a comparison of numerous pathological cases ; in fact, the author nowhere defines clearly the limits of the sensory tract in the brain axis. The spinal cord is discussed in the eighth lecture. The author has not offered any new facts regarding it, nor is his discussion of this portion as complete as of other parts of the central nervous system. No attempt at the localization of functions in the cord is made, although there are at present numerous facts which warrant valuable statements. An interesting drawing of a cord in which atrophy of one anterior horn had accompanied defective development of one extremity in a child, is to be found on page 7. According to diagram 91, all the fibres of the anterior median column cross to the opposite anterior horn through the white commissure. If this were so, the weakness of the side of the body corresponding to the brain hemisphere injured, which occurs in hemiplegia, could not be explained.

These are the chief points which call for comment, and considering the complexity of the subject and the varying views upon it, they must be admitted to be minor faults. The work as a whole is extremely satisfactory. In fact there is none which covers this field in such a clear and concise manner, and to those who care to obtain a reliable summary of brain anatomy the book can be recommended without reserve. The method pursued in the recent German works on brain anatomy is so different from that with which readers of Gray and Quain are familiar, and is so superior, that it is to be hoped that the English and the American anatomists will profit by the advances of their Continental contemporaries in the preparation of new editions and works. The only presentation of the subject which is intelligible and practical is that which is given by Edinger, Wernicke and Meynert, viz.: to trace systems of fibres from one part of the brain to another part, coupling the consideration of the physiology of a tract with its anatomy, and not omitting the light thrown on the subject by pathology. Descriptions of sections through the brain are of secondary importance, and only become intelligible when combined with the better method. It is also greatly to be wished that English and American readers could be supplied with works of this character in the readable and cheap form in which such German works appear. Published in pamphlet form, with large pages which admit good-sized diagrams, and in clear type, the book presents an attractive appearance. M. A. STARR.

The Nature of Mind and Human Automatism. By MORTON PRINCE, M.D. J. B. Lippincott Company, Philadelphia, 1885.

We shudder to think of the task Dr. Prince has set himself in the little book before us; and we stand in awe of his courage when we read that this task was first attempted in a graduation thesis, "some eight or nine years ago." Graduation theses, the world over, are not remarkably long-lived, and but few of them are considered worthy of a revival after a lapse of years. Dr. Prince has done well, however, in rescuing his essay from utter oblivion. His subject is no less a one than the relations of mind and matter—that mystery of mysteries which has baffled the ingenuity of the ablest minds of all ages. It would be no mean praise to say that the author has not overreached his own ambition; but we must say more than that, for he has made an interesting contribution to the study of this question, and if he has not explained away the mystery altogether, he has, at least, defined most accurately the exact nature of the problem to be solved.

According to Dr Prince, philosophers and psychologists have themselves to blame for the obscurity in which this question is still involved. They have deepened the mystery "by a dust of their own raising." The chief difficulty lies not, so the author would have us believe, in the problem itself, but in the cloudy notions some of our modern gods—Spencer, Tyndall, Huxley, Bain, and John Fiske—had of *what* was to be solved. Dr. Prince berates them all for their misconception of the subject under discussion, but the author will himself acknowledge that, in this instance, to state the problem clearly is to give half the proof.

To this half Dr. Prince has made a most valuable contribution. What *is* and what is *not* to be discussed, was perhaps never brought home to our minds as vividly as after reading this essay. But how about the other half of the mystery?

The theorem which Dr. Prince starts out to prove is: "Instead of there being one substance with *two properties* or 'aspects,' *there is one substance*—mind; and the other *apparent* property, motion, is only the way in which this real substance, mind, is apprehended by a *second organism*" (p. 29). It is all mind, therefore, and nothing more. If so, the author would be justified in saying, as he does further on (p. 37), that "a great deal of thought has been devoted to trying to understand how molecular changes are transformed into consciousness, when in reality there is no transformation at all." And yet, though we call in the agency of a second organism, we have still to cope with two sets of facts. Call them mind and motion, different properties of mind or different properties of matter,—call them what you will, the exact relation of these two different facts remains the chief mystery. But let us see how Dr. Prince solves the problem.